REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated October 8, 2003. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue. Applicants are expecting for a phone call from the Examiner thereby scheduling a phone interview after filing this response.

Status of the Claims

Claims 1-5, 10, 12-16, 18-19, 21, and 42 are under consideration in this application. Claims 6-9, 11, 17, 20, 22-41 are being cancelled without prejudice or disclaimer. Claims 1, 13, 15, 16, 18, 19, 21 are being amended, as set forth above, in order to more particularly define and distinctly claim Applicants' invention. A new claim 42 is being added to recite other embodiments described in the specification.

Additional Amendments

The specification and the claims are being amended to correct formal errors and/or to better disclose or describe the features of the present invention as claimed. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Formality Rejections

Claims 1-41 were rejected under 35 U.S.C. § 112, second paragraph, on the grounds of failing to distinctly claim the subject matter of the invention. As indicated, the claims have been amended as required by the Examiner. Accordingly, the withdrawal of the outstanding informality rejection is in order, and is therefore respectfully solicited.

Prior Art Rejections

Under 35 U.S.C. § 103(a), claims 1-4, 6-9, 10-15, and 21-36 were rejected on the grounds of being unpatentable over U.S. Pat. No. 5,796,458 to Koike et al. (hereinafter "Koike") in view of U.S. Pat. No. 3,994,567 to Matsuo et al. (hereinafter "Matsuo"), claim 5 was rejected on the grounds of being unpatentable over Koike in view of Matsuo and further in view of U.S. Pat. No. 5,911,899 to Yoshikai et al. (hereinafter "Yoshikai"), claims 16-19

and 37-39 were rejected on the grounds of being unpatentable over Koike in view of Matsuo and further in view of U.S. Pat. No. 5,800,733 to Kelly (hereinafter "Kelly"), and claims 20 and 40-41 were rejected on the grounds of being unpatentable Koike in view of Matsuo and further in view of Kelly and further in view of U.S. Pat. No. 5,273,680 to Gray et al. (hereinafter "Gray"). Applicants have reviewed the cited references and hereby respectfully traverse the rejections.

The liquid crystal display device of the invention, as now recited in claim 1, comprises: substrates disposed in opposition to each other with a liquid crystal layer being interposed therebetween; a pixel electrode formed in each pixel area on a liquid-crystal-side surface of one of the substrates; a counter electrode which generates an electric field between itself and the pixel electrode; and alignment films disposed in contact with the liquid crystal on the liquid-crystal-side surfaces of the respective substrates. In particular, each of the alignment films ***ORI*** (Fig. 1; page 14, 4th paragraph; page 15, 1st paragraph) is formed with a material including at least one of diamine structures (1)-(4) having double amine "NH2".

Applicants respectfully contend that none of the cited references, nor their combination teaches or suggests "such alignment films being formed with a material including at least one of diamine structures (1)-(4) having double amine "NH2" so as to absorb/trap ionic impurities thereby preventing ionic image retention (page 4, 2nd paragraph; page 18, lines 1-3).

In the Office Action, the Examiner did not comment on the feature of "a liquid crystal layer with a resistivity of 1.0×10^{10} Ω cm or more and 5.0×10^{13} Ω cm or less" in claim 13 The Examiner only relied upon Koike to teach LCD alignment films being formed with a material of diamine structures, and upon Kelly/Gray to teach liquid crystal molecules with several particular liquid crystal structures, such as difluorobenzene, dicyanobenzene, etc.

Although the invention applies to alignment films being formed with a material of general diamine structures as disclosed in Koike, the invention specifically applies diamine structures (1)-(4) having double amine "NH2" to achieve unexpected results or properties. For example, the LCD of the invention is observed by using a Pritchard-made luminance meter PR-900 to have an ionic image retention strength of 3 or less or 2 or less (page 19, 3rd paragraph). As another example, by using such alignment films ORI in conjunction with a liquid crystal layer with a resistivity of 1.0×10^{10} Ω cm or more and 5.0×10^{13} Ω cm or less, the AC image retention becomes 8% or less and that ionic image retention is not observed

after pixels have been turned on for two minutes (page 19, 2nd paragraph). The presence of these unexpected properties is evidence of nonobviousness. MPEP§716.02(a).

> "*Presence of a property not possessed by the prior art is evidence of nonobviousness. In re Papesch, 315 F.2d 381, 137 USPQ 43 (CCPA 1963) (rejection of claims to compound structurally similar to the prior art compound was reversed because claimed compound unexpectedly possessed anti-inflammatory properties not possessed by the prior art compound); Ex parte Thumm, 132 USPQ 66 (Bd. App. 1961) (Appellant showed that the claimed range of ethylene diamine was effective for the purpose of producing " 'regenerated cellulose consisting substantially entirely of skin' " whereas the prior art warned "this compound has 'practically no effect.' ").*

Applicants will point out that "[t]*he submission of evidence that a new product possesses unexpected properties does not necessarily require a conclusion that the claimed invention is nonobvious. In re Payne, 606 F.2d 303, 203 USPQ 245 (CCPA 1979). See the discussion of latent properties and additional advantages in MPEP § 2145.*" However, the unexpected properties were unknown and non-inherent functions in view of Koike or Kelly/Gray, since neither Koike nor Kelly/Gray inherently achieve the same results. In other words, these advantages would not flow naturally from following the teachings of Koike, Kelly/Gray or their combination, since Koike fails to suggest alignment films being formed with a material of one of diamine structures (1)-(4) having double amine "NH2."

Applicants further contend that the mere fact that one of skill in the art could further specify the diamine structures as disclosed in Koike into diamine structures (1)-(4) having double amine "NH2", to meet the terms of the claims is not by itself sufficient to support a finding of obviousness. The prior art must provide a motivation or reason for one skilled in the art to provide the unexpected properties, without the benefit of appellant's specification, to make the necessary changes in the reference device. *Ex parte Chicago Rawhide Mfg. Co.*, 223 USPQ 351, 353 (Bd. Pat. App. & Inter. 1984). MPEP§2144.04 VI C.

Applicants contend that neither Koike, Kelly, Gray nor their combination teaches or discloses each and every feature of the present invention as disclosed in independent claim 1. As such, the present invention as now claimed is distinguishable and thereby allowable over

the rejections raised in the Office Action. The withdrawal of the outstanding prior art rejections is in order, and is respectfully solicited.

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicants respectfully contend that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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